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Remarks

Claims 1-21 were pending in this application. Claims 1, 2, 4 and 16 have been amended, and claims 3 and 6-13 have been canceled. Accordingly, claims 1, 2, 4, 5, and 14-21 are currently being examined.

Section 3 of the Office Action objected to claims 6-13 under 37 C.F.R. §1.75(c) as being of improper dependent form for failing to further limit the subject matter of a previous claim. More specifically, according to the Office Action, claims 6-13 do not further limit the structure of the claimed apparatus, but only recite material to be used with the apparatus.

Applicant hereinabove has canceled claims 6-13 to further the prosecution of this application. Accordingly, applicant respectfully submits that the objection to claims 6-13 is now moot.

Nevertheless, applicant respectfully notes that this objection is incorrect since, as recited in canceled claim 6, the "quantity of material" is a "cleaning compound". Since this cleaning compound works on the elements of the apparatus, for example, cleaning the screw, the cleaning compound is not an "article or material" upon which the "machine works", but rather is a material which works on other structural elements of the apparatus, and thus, as stated in paragraph 4 of M.P.E.P. §2115, the cited cases from that section of the M.P.E.P. do not apply. Also, in the cited case *Ex Parte Masham* 2 USPQ2d 1647 (Bd. Pat. App. and Inter. 1987), the rejection was not based on the recitation a material as a structural limitation, but instead on the "amount" of that material, see paragraph 3 of M.P.E.P. §2114. Thus, applicant respectfully submits canceled claims 6-13 do further limit the structure of the apparatus and are proper.

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In view of the cancellation of claim 6-13 and the remarks above, applicant respectfully requests that the objections raised against claims 6-13 under 37 U.S.C. §1.75(c) be reconsidered and withdrawn.

Sections 4 and 5 of the Office Action rejected claims 1-16 under 35 U.S.C. §112, first paragraph, as containing subject matter which was not sufficiently described in the specification. More specifically, according to the Office Action, claim 1 recites that locking the check valve is responsive to "ANY axial motion of ANY ELEMENT along the barrel", but that the present specification only discloses locking the check valve in response to "reverse axial motion of the screw along the barrel".

Applicant hereinabove has amended claim 1 to recite that the check valve is locked into the open position in response to "reverse axial motion of the screw along the barrel" which allows bi-directional flow of material along the screw. Support for this amendment, as noted by the Office Action, can be found, inter alia, on page 8 in lines 14-20 of the present specification. Applicant has also canceled claim 3, the subject matter of which is now recited in amended claim 1. In addition, claim 4 has been amended to recite unlocking the check valve in response to the "normal rotational motion" (emphasis added) of the screw. Support for this amendment, as noted in the Office Action, can be found, inter alia, on page 8 at lines 10-20 of the present specification.

Also, applicant has amended claim 2 to be in independent form and to recite that the check valve is locked into the open position in response to "axial motion of a stud along the barrel" (emphasis added). In addition, claim 16 has been amended to depend from amended independent claim 2 instead of claim 1. Support for these amendments can be found, inter alia, from page 11, line 14 to page

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12, line 10; and in Figs. 3-5 of the subject specification.

Applicant respectfully submits that unlike the assertion in the Office Action, the present specification does sufficiently describe at least two elements, the screw or a stud, each of which can be axially moved to lock a check valve in the open position to allow bi-directional flow of material along the screw, as recited in claim 1. Nevertheless, to further prosecution of this application, applicant has amended claims 1 and 4 to recite the particular embodiment for locking and unlocking the check valve into and out of the open position disclosed at least on page 8 in lines 14-20 of the present specification ("reverse axial motion of the screw"), and claims 2 and 16 to recite the particular embodiments disclosed at least from page 11, line 14 to page 12, line 10 of the present specification ("axial motion of a stud along the barrel"). Since the amendment to claim 1 results in the subject matter of claim 3 being included in amended claim 1, claim 3 has been canceled. Thus, applicant respectfully submits that the subject matter of amended claims 1, 2, 4 and 16 are sufficiently described in the present specification with respect to 35 U.S.C. §112, first paragraph.

Since claims 5 and 14-15 depend from amended claim 1 and were not specifically rejected beyond the rejection of the independent claim on which these claims depend, and because a claim which depends on another claim is subject to all the limitations of that other claim, applicant respectfully submits that claims 5 and 14-15 are sufficiently described in the present specification for at least the same reasons discussed above with respect to amended claim 1.

In view of the amendments to claims 1, 2, 4, and 16, the cancellation of claims 3 and 6-13 and the remarks above, applicant

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respectfully requests that the rejections raised against claims 1-16 under 35 U.S.C. §112, first paragraph, be reconsidered and withdrawn.

Sections 6 and 7 of the Office Action rejected claims 1-16 under 35 U.S.C. §112, second paragraph, as being indefinite. More specifically, according to the Office Action: (1) claim 1 is unclear because claim 1 does not recite which element is capable of axial motion; (2) claim 6 incorrectly recites "cleaning compound" as a structural element; and (3) claim 16 incorrectly recites the poppet-type check valve and the ball-type check valve as capable of being locked in an open position in response to "reverse axial motion of the screw".

As discussed above with respect to other sections of the Office Action: (1) claim 1 has been amended to more clearly recite that the element capable of the axial motion is the screw; (2) claims 6-13 have been canceled; and (3) claim 16 has been amended to depend on amended claim 2 which responds to axial motion of a "stud" along the barrel to lock the check valve into the open position, instead of the axial motion of the screw as required by amended claim 1. Accordingly, applicant respectfully submits that: (1) amended claim 1 recites the element described in the present specification capable of the recited reverse axial motion and is not unclear; (2) the rejection of claim 6 is now moot; and (3) the poppet-type check valve and ball-type check valve are correctly recited in amended claim 16 which is now dependent on amended claim 2 which recites the element described in the present specification as capable of locking these particular check valves.

Since claims 4, 5 and 14-15 depend from amended claim 1 and were not specifically rejected beyond the rejection provided for claim 1, and because a claim which depends on another claim is

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subject to all the limitations of that other claim, applicant respectfully submits that claims 4, 5 and 14-15 are not indefinite for at least the same reasons discussed above with respect to amended claim 1.

In view of the amendments to claims 1, 2, 4, and 16, the cancellation of claims 6-13, and the remarks above, applicant respectfully requests that the rejections of claims 1-16 under 35 U.S.C. §112, second paragraph, be reconsidered and withdrawn.

Sections 8 and 9 of the Office Action rejected claims 1-16 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 4,988,281 to Heathe et al. ("Heathe patent"). According to the Office Action each element of these claims can be found in the Heathe patent. More specifically, the Office Action refers to two embodiments of the Heathe patent: (1) the valve shown in Figs. 1-3 of the Heathe patent that is actuated by the motion of balls 30 riding in spiral grooves 33 and 31 in the check ring and the valve body, respectively; and (2) Figs. 4-7 of the Heathe patent which show a valve with a notch (119) in the leading edge (112) of the check ring (111). For each of these embodiments, the Office Action asserts that "... the check valve [is] locked in an open position to allow bi-directional flow of material along the screw comprises the protrusion [30, 108] located in a bottom of the slot [33,119]" (emphasis added).

Applicant respectfully submits that for both embodiments the assertions are not correct at least because the Heathe patent fails to teach or suggest a check valve that can be selectively locked in "an open position" as disclosed in the present specification and as recited in amended claims 1 and 2. With respect to the first cited embodiment of the Heathe patent, because the grooves 33 are open toward the front (downstream) end of the check ring, the valve can

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not be locked such that forward longitudinal motion of the screw does not cause the closing of passageway 18, and thus, cannot be locked open to allow rearward flow of material through passageway 18 during forward longitudinal screw motion. Similarly, with respect to the second embodiment of the Heathe patent, when the protrusion 108 of the Heathe patent is in the bottom of slot 119, the check ring is not in a locked open position, but rather is still free to move rearwardly, thereby allowing passageway 118 to be blocked.

Thus, in the asserted 'locked' positions of the Heathe patent, only uni-directional flow can occur, not "bi-directional flow" as recited in amended claims 1 and 2. Indeed, the valves described in the cited Heathe patent embodiments can not be held in a position to prevent passageways 18, 118 from closing, that is, "locking the check valve in the open position" as recited in amended claims 1 and 2. Instead, the Heathe patent relates to a valve that can be switched between uni-directional flow and zero flow. In contrast, the present invention, as recited in amended claims 1 and 2, describes a check valve that switches between uni-directional flow and bi-directional flow. In other words, while the check valve described in the Heathe patent can be locked shut, the check valve recited in amended claims 1 and 2 of the present invention can be locked open. Thus, for at least this reason, applicant respectfully submits that amended claims 1 and 2 are not anticipated by the Heathe patent.

Since claims 4, 5 and 14-16 depend from amended claims 1 or 2 and were not specifically rejected beyond the rejection provided for claim 1, and because a claim which depends on another claim is subject to all the limitations of that other claim, applicant respectfully submits that claims 4, 5 and 14-16 are not anticipated

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by Heath patent for at least the same reasons discussed above with respect to amended claims 1 and 2.

In view of the amendments to claims 1, 2, 4 and 16, the cancellation of claim 3 and 6-13, and the remarks above, applicant respectfully requests that rejections raised against claims 1-16 as being anticipated by the Heath patent be reconsidered and withdrawn.

In view of the amendments to claims 1, 2, 4 and 16, the cancellation of claim 3 and 6-13, and the remarks above, applicant respectfully requests that objections and rejections raised in the Office Action be reconsidered and withdrawn, and earnestly solicit a Notice of Allowance.

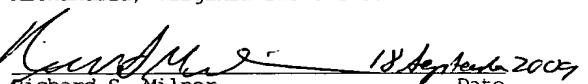
If a telephone conference would be of assistance in advancing prosecution of the subject application, applicant's undersigned attorney invites the Examiner to telephone him at the number provided.

No fees, other than the fee for the three-month extension of time, are deemed necessary in connection with the filing of this Amendment. However, if any such fees are required, authorization is hereby given to charge the amount of any such fees to Deposit Account No. 03-3125.

Respectfully submitted,


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18 September 2004
Date